010

GEOLOGICAL REPORT ON THE NABISH LAKE PROPERTY

St. Joe Canada Inc.

November 9, 1987

A.D. MacTavish

Dual 2.4865

TABLE OF CONTENTS

Summary:

A program of geological mapping, detailed sampling, and reconnaissance mapping was completed on the Nabish Lake Property during late August and early September, 1987. The amount and exposure of outcrop was highly variable with small areas of outcrop alternating with larger areas of glacial overburden and swamp. Rocks observed included mafic metavolcanic flows, intermediate tuffs and lapilli tuffs, and a variety of locally layered, leucocratic to melanocratic gabbroic rock types including hornblende gabbro, quartz-hornblende gabbro and biotite-hornblende gabbro. Three small sulphide zones containing highly variable amounts of pyrite, pyrrhotite and chalcopyrite were observed to occur in three different geological environments.

Recommendations:

Whether any further work is done on the Nabish Lake Property hinges upon assay results from the detailed sampling program, however, at the time of writing the analytical work was still forthcoming. If the results of the assays are positive then the following program is recommended:

1) A grid with 100m line spacing should be cut over the 26 claims of the group;

2) Magnetometer and VLF-EM surveys should be run over the complete grid;

3) IP-EM surveys should be run over the known mineralized zones;

4) Geological mapping should be completed.

If assay results are negative then I recommend that no further work be done on the property.

Introduction:

A geological mapping and sampling program was carried out over St. Joe Canada Inc.'s Nabish Lake Property between August 17 and September 6, 1987. The claim group consists of 26 claims, numbered K-869814 and 815; 897341 to 351, inclusive; 882450 and 451, 959729 to 732, inclusive; 903692; and 910392 to 397, inclusive; within the Contact Bay Area (Claim Map G-2579, see Figure 1).

Location and Access:

The Nabish Lake Property is located in Northwestern Ontario approximately 12km southwest of the Town of Dryden, 4km east of Eagle Lake, and 7.75km west-southwest of Contact Bay of Wabigoon Lake. Access to the property is excellent via secondary roads and the Century Lodge Road from Highway 812 (The Manitou Lake Road). Numerous secondary and partially overgrown logging roads pass through the property and have been used as mapping traverses where present.

Topography and Vegetation:

The topography is a variable mixture of isolated rock knobs and ridges, notably in the northwest four claims, the southwest four claims, and immediately east of Nabish Lake; extensive inaccessible swamps, marshes, bogs and beaver ponds that surround Nabish Lake and line all streams that pass through the property; and rolling, to locally hummocky, glaciolacustrine and glaciofluvial outwash terrain which comprises much of the north-central and central portions of the group. Less than 30% of the group contains exposed outcrop.

Tree types vary depending upon topography; the wetlands can contain alder, red cedar, larch and black spruce; the glacially derived areas support a sometimes sparse secondary growth of scotch pine, black spruce and trembling aspen, and the outcrop areas are covered with scotch pine, white pine, black and white spruce, balsam fir and occasionally trembling aspen and white birch.

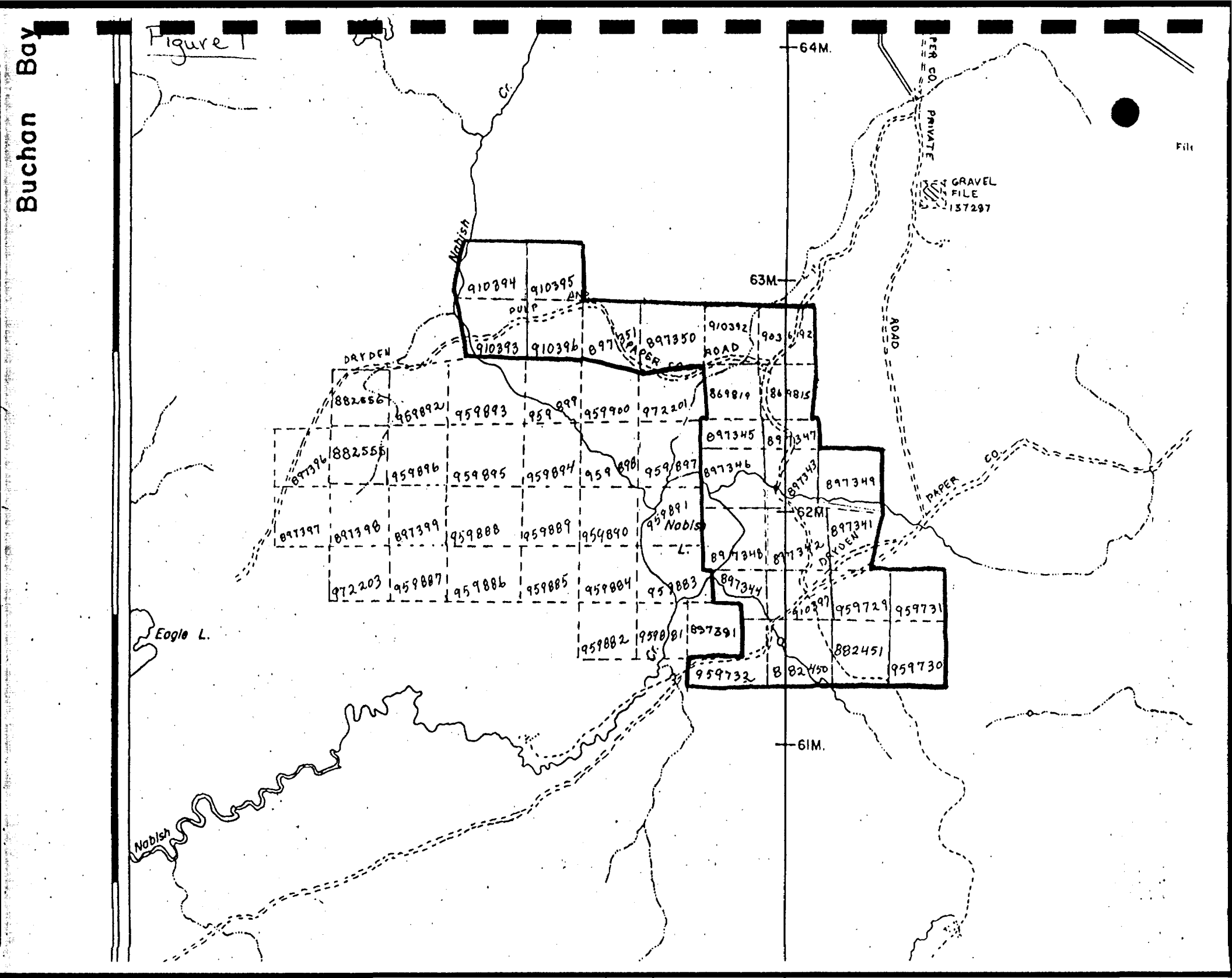


Figure 1
Buchan Bay
64M.
63M
62M
61M.
Nobish
Cr.
PULP
AND
PAPER
CO
ROAD
DRYDEN
PRIVATE
GRAVEL
FILE
137287
Eagle L.
Nobish
910394
910395
910393
910396
897350
910392
903692
882556
959892
959893
959899
959900
972201
869819
869815
897345
897347
882555
897396
959896
959895
959894
959898
959897
897346
897343
897349
959891
897397
897398
897399
959888
959889
959890
897342
897341
972203
959887
959886
959885
959884
959883
897344
910397
959729
959731
959882
897391
882451
959732
959730

Survey Method:

Geological mapping, at a scale of 1:5000 was completed on 8 claims of the group between Oct. 17 and Nov. 6/87, by the author and assistants Joanne Paul, Shawn Aris and William Paterson. A preliminary survey was also completed by mapping all of the remaining claim lines (both north-south and east-west), and all roads, where accessible. The mapped claims were traversed in a north-south direction at intervals ranging between 110m and 125m, depending upon claim width, with all traverses being tied into claim posts.

Previous Exploration:

1956: Upper Shebandowan Mines Ltd. completed a preliminary geological examination of claims approximately 1km southwest of Nabish Lake, and recommended, but did not implement, further mapping and prospecting. Preston East Dome Mines Ltd. drilled four holes, totalling 959 ft. near the present Southeast Showing. Drill logs indicate that some chalcopyrite and pyrrhotite was encountered.

1958: Three diamond drill holes and three trenches were completed by Mr. E. Krisko directly south of Nabish Lake.

1960: Preston East Dome Mines Ltd. completed an EM survey of unknown type.

1961: The Dryden Paper Co. Ltd. did some reconnaissance mapping and some prospecting.

1966: Alexander Kozowy excavated three trenches south of Nabish Lake.

1967: Magnetometer and EM surveys were done over the vicinity of the present Southeast Showing by the Agena Mining Co. Latin American Mines Ltd. completed magnetometer and EM surveys over ground covering the Kozowy trenches. Two diamond drill holes were recommended, but never drilled.

World Mining Explorations Ltd. drilled a 409 ft. hole in the vicinity of the Northeast Showing.

1969: Hollinger Mines Ltd. completed a program of reconnaissance geological mapping, magnetometer and vertical loop-EM surveys and diamond drilling. Three holes totalling 1414 ft. were completed.

1970: Chimo Gold Mines Ltd. completed three diamond drill holes, totalling 820 ft., with only one hole within the boundaries of the present property, near the Northeast Showing.

General Geology:

The Nabish Lake area occurs completely within the Archean-age Wabigoon Subprovince and is partially underlain by a small gabbroic to dioritic intrusion which is directly associated with and occupies an embayment within the northeastern lobe of the large, granitic to quartz dioritic Atikwa Batholith (Blackburn et al, 1979). Whether the mafic intrusive rocks are coeval with the batholith is difficult to determine. The Nabish Lake Intrusion has been emplaced into the southern boundary of a 10 to 12km thick pile of mafic metavolcanic flows and tuffs that contain some intercalated felsic flows, tuffs, and tuff-breccias (Blackburn et al, 1979). The maps of Moorhouse (1939) and Satterly (1941) show that the Nabish Lake Intrusion is largely gabbroic to dioritic in composition with mixed, hybridized contact phases. Their maps also indicate that the intrusion locally contains large, altered inclusions of mafic metavolcanic material.

Property Geology: (see accompanying map):

Gabbro, the most abundant rock type encountered within the Nabish Lake Property exhibits a wide range of green to greyish-green, fine to very coarse-grained, leucocratic to melanocratic, hornblende, quartz and sometimes biotite rich varieties, with occasional well-developed modal layering. The massive gabbros tend to be sub-ophitic in texture, while the layered varieties exhibit a well-defined, probably flow-derived, igneous foliation. The layers are usually 10 to 30cm in thickness, discontinuous along strike, and locally exhibit scours and channels due to magnetic current flow. The gabbros become increasingly finer-grained and hybridized as the contact with the metavolcanic rocks is approached. Metavolcanic inclusions of many sizes occur throughout the gabbro body, but become more abundant near the intrusive contacts. Most of the known sulphide mineralization occurs within or near one or more metavolcanic xenoliths.

The metavolcanic rocks present within the property range from mafic to intermediate in composition. The mafic metavolcanics occur mainly as dark green, very fine to fine-grained, locally chloritic or amphibolitic pillowed to massive flows with minor pillow breccias. The intermediate volcanics are for the most part fragmental in nature and range from very fine-grained tuffs to coarse lapilli tuffs. The lapilli tuffs are composed of angular to subangular felsic fragments enclosed within a very fine-grained chloritic and amphibole-rich matrix. Occasional agglomerate-sized blocks occur within the lapilli tuffs. Shearing, silicification and carbonitization are common throughout these rocks especially near the gabbroic rocks.

Metamorphism within the metavolcanics ranges from lower to upper amphibolite grade. Recrystallization due to intense contact metamorphism can locally produce a rock that looks very much like a fine-grained gabbro.

Mineralization:

Sulphide mineralization was observed to occur within three distinctly different and separate zones within the Nabish Lake Property:

1) The Northeast Showing is located near Post 1 of Claim K-869814 within locally sheared, chloritized, amphibolitized and carbonitized pillowed mafic flows, and has been exposed by four small pits. Mineralization occurs in small, isolated irregular pods of limited extent and consists of sparse, less than 1% to occasionally 5%, pyrite, pyrrhotite and some chalcopyrite.

2) The Northwest Showing, located about 50m north-northwest of Post 1 of Claim K-910393, is composed of an irregular zone, approximately 35m long and 5 to 12m wide, that occurs at the contact between gabbro and intermediate tuffs to lapilli tuffs. It has been exposed by 8 shallow pits and trenches. The metavolcanics have been sheared, silicified, carbonitized and highly contact metamorphosed. Narrow, irregular, rusty quartz stringers and veinlets are common, especially near to or within shears. Mineralization, which consists of 1 to 20% disseminated to blebby, and stringer pyrite, pyrrhotite and minor chalcopyrite, is mainly confined to the volcanics, however some sulphides do occur just within the gabbro.

3) The Southeast Showing, situated about 30m south-southwest of Post 1 of Claim K882451, is contained within fine to coarse-grained, foliated, probably layered quartz-hornblende gabbro approximately 20m southeast of a highly altered, sheared, partially recrystallized, very fine to fine-grained metavolcanic xenolith. It is exposed by two shallow pits. The mineralization occurs within and irregular zone no more than 11m in diameter, that contains 1 to 10% finely disseminated, locally blebby pyrrhotite, chalcopyrite and pyrite.

References:

Blackburn, C.E., Beard, R.C., and Rivett, S.:

1979: Ontario Geological Survey Map 2443, Kenora-Fort Francis, Geological Compilation Series.

Moorhouse, W.W.:

1939: Geology of the Eagle Lake Area; Ontario Department of Mines, Forty-eighth Annual Report, Vol. XLVIII, Part IV.

Ontario Ministry of Northern Development and Mines, Resident Geologists, Assessment Files, Kenora, Ontario

Satterly, J.:

1941: Geology of the Dryden-Wabigoon Area; Ontario Department of Mines, Fiftieth Annual Report, Vol. L, Part II.

CERTIFICATE OF QUALIFICATION

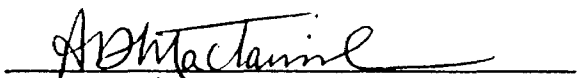
I, Allan MacTavish of 548 McMaster St., Thunder Bay, Ontario due hereby certify that:

1. I am a graduate of Laurentian University, Sudbury, Ontario and hold and Honours Bachelor of Science degree in geological sciences (1977).

2. I am a geologist employed by St. Joe Canada Inc. and have practiced my profession continuously since graduation.

3. I am a fellow, in good standing, of the Geological Association of Canada.

4. I personally supervised the fieldwork described herein.



Al MacTavish

Geological Report

Glatz Property

St. Joe Canada Inc.

November 9, 1987

A.D. MacTavish

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SUMMARY:

Geological mapping and sampling of part of the Glatz Property were carried out during September, 1987. The amount of outcrop encountered was sparse with much of the four claims mapped consisting of overburden, swamp or bog. Rocks observed were hornblende-quartz gabbros and melagabbros, feldspathic hornblendites, feldspar and quartz-feldspar porphyry dykes, and sheared and altered intermediate metavolcanic tuffs and flows.

Three sulphide zones containing highly variable amounts of chalcopyrite, pyrrhotite, pentlandite and pyrite were observed, mapped and sampled.

RECOMMENDATIONS:

No assay results were available at the time of writing, however, if the assays are encouraging, then further work should be carried out over the complete Glatz Property. The work recommended is as follows:

1. A grid with 100m line spacing should be cut over all fifteen claims of the group;

2. Magnetometer, VLF-EM and IP-EM surveys should be completed;

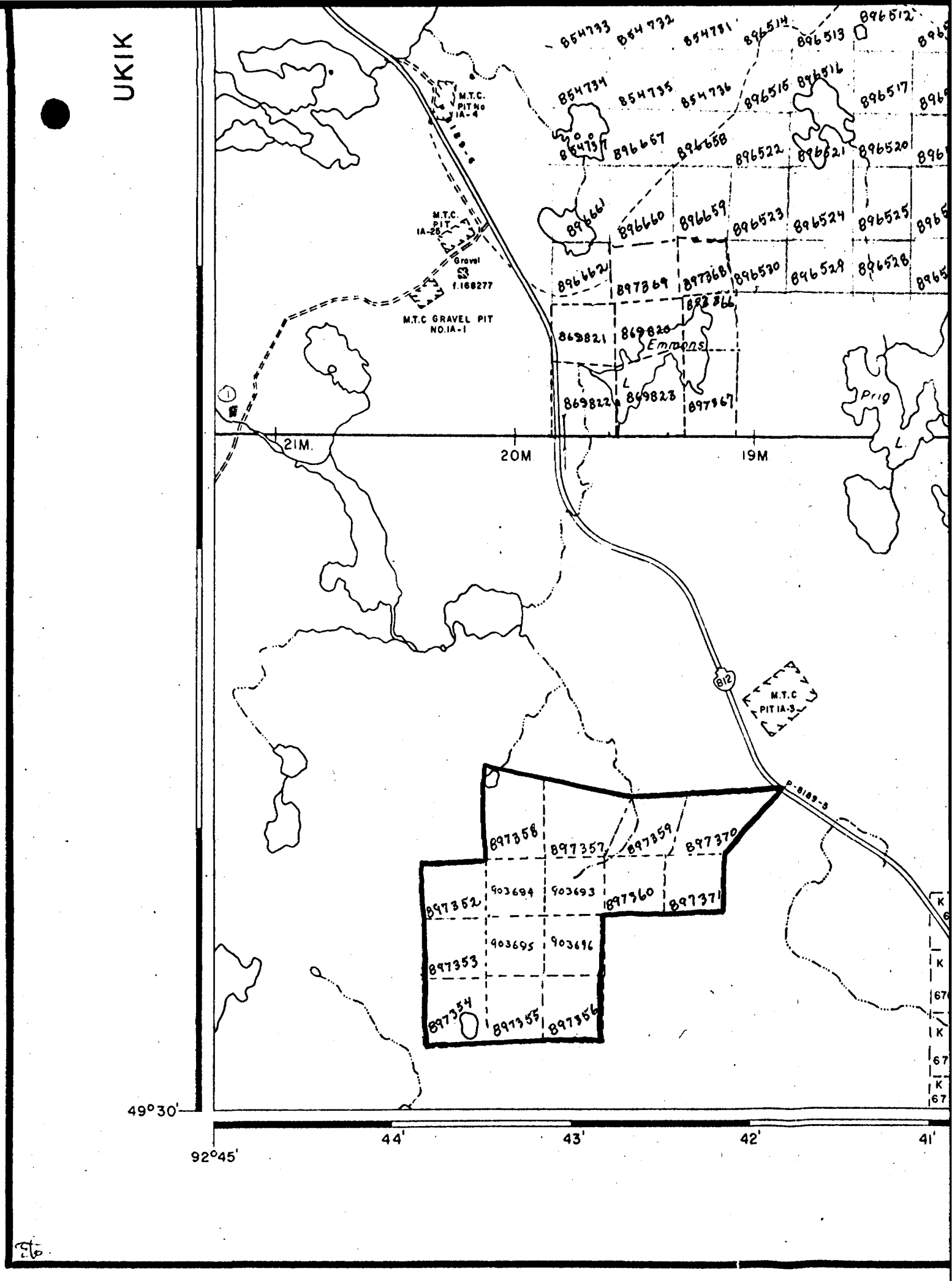
3. Geological mapping should be finished on the remaining eleven claims.

INTRODUCTION:

A geological mapping and detailed sampling program was completed on St. Joe Canada Inc.'s Glatz Property between September 10 - 22, 1987. The group consists of 15 contiguous claims numbered K-897352 to 360, inclusive; 897370 and 371, and 903639 to 696, inclusive, within the Turtlepond Lake Area Claim Sheet, No. G-2595 (see Figure 1). The purpose of the work was to map and sample the showings and the four claims surrounding them.

LOCATION AND ACCESS:

The Glatz Property is located in northwestern Ontario approximately 30km south-southeast of the town of Dryden, 4km west of Minnehaha Lake and 4km southeast of Ukik Lake. Access is fair with Highway 812 just touching the northeast corner of the claim group, and an old logging road, that connects with Highway 812 crossing diagonally through the southwesternmost two claims. At one time numerous skidder trails from past logging activities criss-crossed the claim group, however, most of these are now heavily overgrown and impassible.


UKIK
M.T.C. PIT No IA-4
M.T.C. PIT IA-28
Gravel
f.168277
M.T.C GRAVEL PIT NO.IA-1
Empress
Prig
21M.
20M
19M
812
M.T.C PIT IA-3
P-8189-3
49°30'
92°45'
44'
43'
42'
41'

TOPOGRAPHY AND VEGETATION:

The topography of the four claims mapped at the Glatz Property is hummocky with scattered and isolated, low to moderate relief hills of rock and glacial overburden surrounded on most sides by beaver ponds, cedar swamps, alder swamps and spruce bogs. Outcrop exposure is less than 20% with the swamp and overburden areas predominating.

The wet areas contain black spruce, red cedar and tag alder, whereas rock and overburden areas are predominated by black spruce, trembling aspen, balsam fir and scotch pine. Cedar is also quite common on low hillsides and in shallow depressions in higher relief areas.

SURVEY METHOD:

A geology map of the property was prepared at a scale of 1:5000 by the author and field assistants Joanne Paul, Shawn Aris and William Paterson. The northern and southern east-west claim lines were chained and flagged at 100m intervals and then used as baseline control for mapping traverses along the north-south claim lines, and at approximately 125m intervals in between.

PREVIOUS EXPLORATION:

1966: The Victoria Algoma Mineral Co. Ltd. completed a VLF-EM survey, a partial magnetometer survey and a reconnaissance geological mapping survey. The geophysical surveys outlined 7 EM conductors, without coincident magnetic anomalies. Three diamond drill holes, totalling 1500 ft. were recommended, however, it is not known whether these were ever drilled.

1971: Lynx Canada Exploration Ltd. did some trenching and stripping on some of the known sulphide occurrences.

GENERAL GEOLOGY:

Little accurate data exists on the general geology of the area surrounding the present claim group. The Ontario Geological Survey Kenora-Fort Francis Geological Compilation Map 2443 (Blackburn et al, 1979) indicates that the property straddles the southeast boundary between the northeast lobe of the felsic to intermediate Atikwa Batholith and the massive to pillowed, mafic metavolcanic flows of the extreme northern part of the Manitou Lakes - Stormy Lake metavolcanic-metasedimentary belt (Blackburn, 1981). The compilation map also indicates that an intermediate to mafic border phase of the Atikwa Batholith, composed mainly of diorite and quartz-diorite, occurs a short distance northeast of the claim group near Emmons Lake. It is distinctly possible that the gabbroic rocks mapped by the present program are part of that border phase.

PROPERTY GEOLOGY:

The accompanying geology map shows that the majority of the rocks present within the four claims mapped are varieties of gabbro and quartz-gabbro. Texturally the gabbros are usually fine to medium-grained, but can locally range up to coarse or very coarse-grained. Mafic mineral content is generally 40 - 60% of the rock, but lencogabbro (10 - 35% mafics) and metagabbro (65 - 90% mafics) varieties are also common. Bluish quartz is usually present (1 - 15%) as both an interstitial and a cumulate component. Alteration of primary hornblende and clinopyroxene to fibrous amphibole (actinolite) is common due to initial deuteric alteration and later regional metamorphism.

Sheared, highly metamorphosed, carbonatized, occasionally silicified, very fine to fine-grained, intermediate-appearing volcanic rock is the second-most abundant rock type. It is possible that these rocks were once mafic volcanics, however, the subsequent deformation and alteration has made this distinction difficult, if not impossible. Two large inclusions of highly altered, occasionally recrystallized metavolcanic material were observed within the gabbroic rocks, near the locations of the three major sulphide showings.

Two varieties of porphyritic rocks occur within the mapped area, both of which are sometimes quartz-bearing feldspar porphyries. When these rocks were observed within the gabbros the phenocrysts tended to be medium to coarse-grained in size, zoned, and were contained within a fine-grained matrix of quartz, feldspar and mafic minerals; whereas those porphyritic rocks mapped within the volcanics exhibited smaller, visibly unzoned phenocrysts within a very fine-grained, grey to brownish matrix. Whether this grain size difference is due to chilling within the volcanics or to an inherent difference in origin is unknown. It is possible that the (quartz)-feldspar porphyries within the volcanic rocks are actually flows or crystal tuffs rather than dykes.

MINERALIZATION:

Significant sulphide mineralization was observed in 3 localities within the claims mapped.

1. The mineralization exposed by four trenches, located between 75 and 225m east of Post 1 of Claim K-903695, varies from 1 to 10% (locally up to 20%) disseminated to very coarse blebby (up to 1cm in diameter), usually composite grains of pyrrhotite, chalcopyrite, pentlandite and minor pyrite. The sulphides are hosted by locally sheared, moderately to heavily fractured, sometimes highly weathered, fine to very coarse-grained hornblende to quartz-hornblende gabbro. Locally the gabbro grades into a quartz hornblende melagabbro or a slightly feldspathic hornblendite. Alteration of hornblende and clinopyroxene to actinolite is ubiquitous and tends to increase near shears and fractures. This sulphide zone strikes approximately southeast with a minimum length of 150m and a 75 to 100m width. All outcrops observed within this zone were well mineralized.

2. The second zone is located about 100m west of Post 1 of Claim K-903695, and is at least 75m long and 25m wide. It strikes approximately south-southeast and is exposed by 2 trenches and a small pit. The host rocks are fine to medium-grained hornblende gabbros, quartz-hornblende gabbros and occasionally hornblende melagabbros. Alteration of mafic minerals to actinolite is again common and some minor silicification occurs near shears and fractures. Mineralization is composed of between 1 and 25% (but usually less than 5%) disseminated to coarse blebby, composite grains of pyrrhotite, chalcopyrite and pentlandite. Pyrite is present as a minor component only.

3. The third zone occurs on an isolated outcrop within a swamp and is situated 200m north of Zone 1. The 1 to 10% disseminated, coarse blebby to stringer chalcopyrite, pyrrhotite and pentlandite is hosted by a medium to coarse-grained quartz-hornblende gabbro to metagabbro. The outcrop is about 40m long by 15m wide, but the true extent of the zone is unknown. The silicate host rocks are quite altered, much like the other two zones described above and are locally sheared, fractured and silicified.

REFERENCES:

Blackburn, C.E.

1981: Geology of the Boyer Lake - Meggisi Lake Area, District of Kenora; Ontario Geological Survey Report 202, 107p.

Blackburn, E.E., Beard, R.C., and Rivett, C.

1979: Ontario Geological Survey Map 2443, Kenora-Fort Francis Geological Compilation Series.

Moorhouse, W.W.

1939: Geology of the Eagle Lake Area; Ontario Department of Mines, 48th Annual Report, Vol. XLVIII, Part IV

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1. I am a graduate of Laurentian University, Sudbury, Ontario and hold and Honours Bachelor of Science degree in geological sciences (1977).

2. I am a geologist employed by St. Joe Canada Inc. and have practiced my profession continuously since graduation.

3. I am a fellow, in good standing, of the Geological Association of Canada.

4. I personally supervised the fieldwork described herein.

A MacTavish

Al MacTavish

December 2, 1986

Your File: 176,179
Our File: 2.10528

Mining Recorder
Ministry of Northern Development and Mines
808 Robertson Street
Box 5050
Kenora, Ontario
P9N 3X9

Dear Sir:

RE: Notice of Intent dated November 17, 1987
Geological Survey on Mining Claims K 869814 et al
in the Areas of Contact Bay and Turtlepond Lake

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

W.R. Cowan, Manager
Mining Lands Section
Mines and Minerals Division

Whitney Block, Room 6610
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

AB:pl
Enclosure: Technical Assessment Work Credits

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

Resident Geologist
Kenora, Ontario

St. Joe Canada Inc.
111 Richmond Street W.
Suite 1116
Toronto, Ontario
M5H 2J4

Ministry of Northern Development and Mines

Ontario

Technical Assessment Work Credits

File: 2.10528

Date: November 17,1987

Mining Recorder's Report of Work No.: 176

Recorded Holder: St. Joe Canada Inc.

~~XXXXXXX~~ Area: Contact Bay

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	K 869814-15 882450-51 897341 to 51 inclusive 903692 910392 to 97 inclusive 959729 to 32 inclusive
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological 17 days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☒ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

Ministry of Northern Development and Mines

Ontario

Technical Assessment Work Credits

File: 2.10528

Date: November 17, 1987

Mining Recorder's Report of Work No.: 179

Recorded Holder: St. Joe Canada Inc.

~~Township~~ Area: Turtlepond Lake

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	K 930693 to 96 inclusive
Electromagnetic _____ days	
Magnetometer _____ days	
Radiometric _____ days	
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological 20 days	
Geochemical _____ days	
Man days ☐ Airborne ☐	
Special provision ☒ Ground ☒	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

☒ not sufficiently covered by the survey ☐ insufficient technical data filed

K 897352 to 60 inclusive
897370-71

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

Ministry of Northern Development and Mines
Ontario

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

#176-87

Mining Act 2.10528

Instructions: – Please type or print. Nov. 7
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Mining lands.

Type of Survey(s)	Township or Area
Geological	Contact Bay Area
Claim Holder(s)	**Prospector's Licence No.**
St. Joe Canada Inc.	T 3608
Address	
111 Richmond St. W., Ste 1116, Toronto, M5H 2J4	
Survey Company	**Date of Survey (from & to)** Day Mo. Yr. / Day Mo. Yr.	**Total Miles of line Cut**
same as above	15 08 87 / 15 10 87	
Name and Address of Author (of Geo-Technical report)	
A. MacTavish	

Credits Requested per Each Claim in Columns at right

		Days per Claim
Special Provisions For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	· Electromagnetic	
	· Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	20
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	· Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.		Days per Claim
	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
	869814	1/4
	869815	1/4
	882450	✓
	882451	✓
	897344	✓
	897342	✓
	897343	✓
	897344	1/4
	897345	1/2
	897346	1/4
	897347	1/2
	897348	1/2
	897349	✓
	897350	1/2
	897351	1/2
	903692	1/4
	910392	✓
	910393	✓
	910394	✓
	910395	✓
	910396	✓
	910397	1/2
	959729	✓

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
	959730	✓
	959731	✓
	959732	✓
	17¼=4¼	4.25
	26x20=	520
	÷30.25	
	=17days	

RECEIVED
LANDS SECTION

KENORA MINING DIV.
RECEIVED
SEP 18 1987
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM

Expenditures (excludes power stripping)

Type of Work Performed	
Performed on Claim(s)	
Calculation of Expenditure Days Credits Total Expenditures	Total Days Credits
$ ÷ 15 =	

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. 26

For Office Use Only		
Total Days Cr. Recorded	Date Recorded	Mining Recorder
520	87.09.18	
	Date Approved as Recorded	Branch Director

Date	Recorded Holder or Agent (Signature)
Sept 14/87	

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying	Date Certified	Certified by (Signature)
Robin Jowett, 883 Sunningdale Road Mississauga Ont L5J 1G1	Sept 14/87	

869814

1362 (85/12)

Ministry of Northern Development and Mines
Ontario

Report of Work #179-87
(Geophysical, Geological, Geochemical and Expenditures)

Mining Act 2, 10528

Instructions: – Please type or print. Nov. 7
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): geological

Township or Area: Turtlepond Area

Claim Holder(s): St. Joe Canada Inc.

Prospector's Licence No.: T3608

Address: 111 Richmond St. W. Ste 1116. Toronto. Ont M5H 2J4

Survey Company: Same as above

Date of Survey (from & to): Day 09 Mo 87 Yr. 30 09 87

Total Miles of line Cut:

Name and Address of Author (of Geo-Technical report): A. MacTavish

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	· Electromagnetic	
	· Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	· Radiometric	
	· Other	
	Geological	20
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	· Electromagnetic	
	· Magnetometer	
	· Radiometric	
	· Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
	903693	✓
	903694	✓
	903695	✓
	903696	✓
	897352	
	897353	
	897354	
	897355	
	897356	
	897357	
	897358	
	897359	
	897360	
	897370	
	897371	

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.

LANDS SECTION

RECEIVED
SEP 18 1987
AM 7 8 9 10 11 12 1 2 3 4 5 6 PM
KENORA MINING DIV.

Expenditures (excludes power stripping)

Type of Work Performed:

Performed on Claim(s):

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work: 15

For Office Use Only

Total Days Cr. Recorded: 300

Date Recorded: 87.09.18

Mining Recorder: [signature]

Date Approved as Recorded:

Branch Director:

Date: Sept 14/87

Recorded Holder or Agent (Signature): R. Jowett

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

89 7352

Name and Postal Address of Person Certifying: Robin Jowett, 883 Sunningdale Road. Mississauga Ont. L5J 1G1

Date Certified: Sept 14/87

Certified by (Signature): R. Jowett

1362 (85/12)

Ontario

Ministry of Northern Development and Mines

Geophysical-Geological-Geochemical Technical Data Statement

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological Mapping

Township or Area Contact Bay Area - G-2579

Claim Holder(s) St. Joe Canada Inc, Suite 1116,
111 Richmond St. W. Toronto, Ont.

Survey Company _____

Author of Report Allan MacTavish

Address of Author 548 McMaster St., Thunder Bay, Ont.

Covering Dates of Survey Aug 17/87 to Sept. 6/87
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic _____
--Magnetometer _____
--Radiometric _____
--Other _____
Geological 20
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: NOV 12/87 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

RECEIVED
NOV 16 1987
MINING LANDS SECTION

MINING CLAIMS TRAVERSED
List numerically

If space insufficient, attach list

(prefix)	(number)
K-869814	K-910394
K-869815	K-910395
K-897341	K-910396
K-897342	K-910397
K-897343	
K-897344	
K-897345	
K-897346	
K-897347	
K-897348	
K-897349	
K-897350	
K-897351	
K-882450	
K-882451	
K-959729	
K-959730	
K-959731	
K-959732	
K-903692	
K-910392	
K-910393	

TOTAL CLAIMS 26

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey Geological Mapping

Instrument _____

Accuracy Scale = 1:5000

Parameters measured _____

_____

Additional information (for understanding results) All claim lines (north-south + east-west, where accessible) and all roads, and at 125m intervals between claim lines.

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken_____

Total Number of Samples_____

Type of Sample_____
(Nature of Material)

Average Sample Weight_____

Method of Collection_____

Soil Horizon Sampled_____

Horizon Development_____

Sample Depth_____

Terrain_____

Drainage Development_____

Estimated Range of Overburden Thickness_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis_____

General_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others_____

Field Analysis (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Field Laboratory Analysis

No. (_____tests)

Extraction Method_____

Analytical Method_____

Reagents Used_____

Commercial Laboratory (_____tests)

Name of Laboratory_____

Extraction Method_____

Analytical Method_____

Reagents Used_____

General_____

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File _____

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological Mapping

Township or Area Turtlepond Lake Area - G-2595

Claim Holder(s) St. Joe Canada Inc., Suite 1116,
111 Richmond St W., Toronto, Ont.

Survey Company _____

Author of Report Allan MacTavish

Address of Author 598 McMaster St. Thunder Bay, Ont.

Covering Dates of Survey Sept 10/87 - Sept 22/87
(linecutting to office)

Total Miles of Line Cut _____

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

DAYS per claim

Geophysical
--Electromagnetic _____
--Magnetometer _____
--Radiometric _____
--Other _____
Geological _____
Geochemical _____

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: NOV 12/87 SIGNATURE: _____
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
K-	903693
K-	903694
K-	903695
K-	903696

If space insufficient, attach list

RECEIVED
NOV 13 1987
MINING LANDS SECTION

TOTAL CLAIMS 4

OFFICE USE ONLY

837 (85/12)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy – Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

_____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

_____

Base station value and location _____

_____

Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____

Method ☐ Time Domain ☐ Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey Geological Mapping

Instrument _____

Accuracy Scale = 1:5000

Parameters measured _____

_____

Additional information (for understanding results) Pace + compass lines running in a North - South direction (including claim lines) at 125m intervals

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

_____

_____

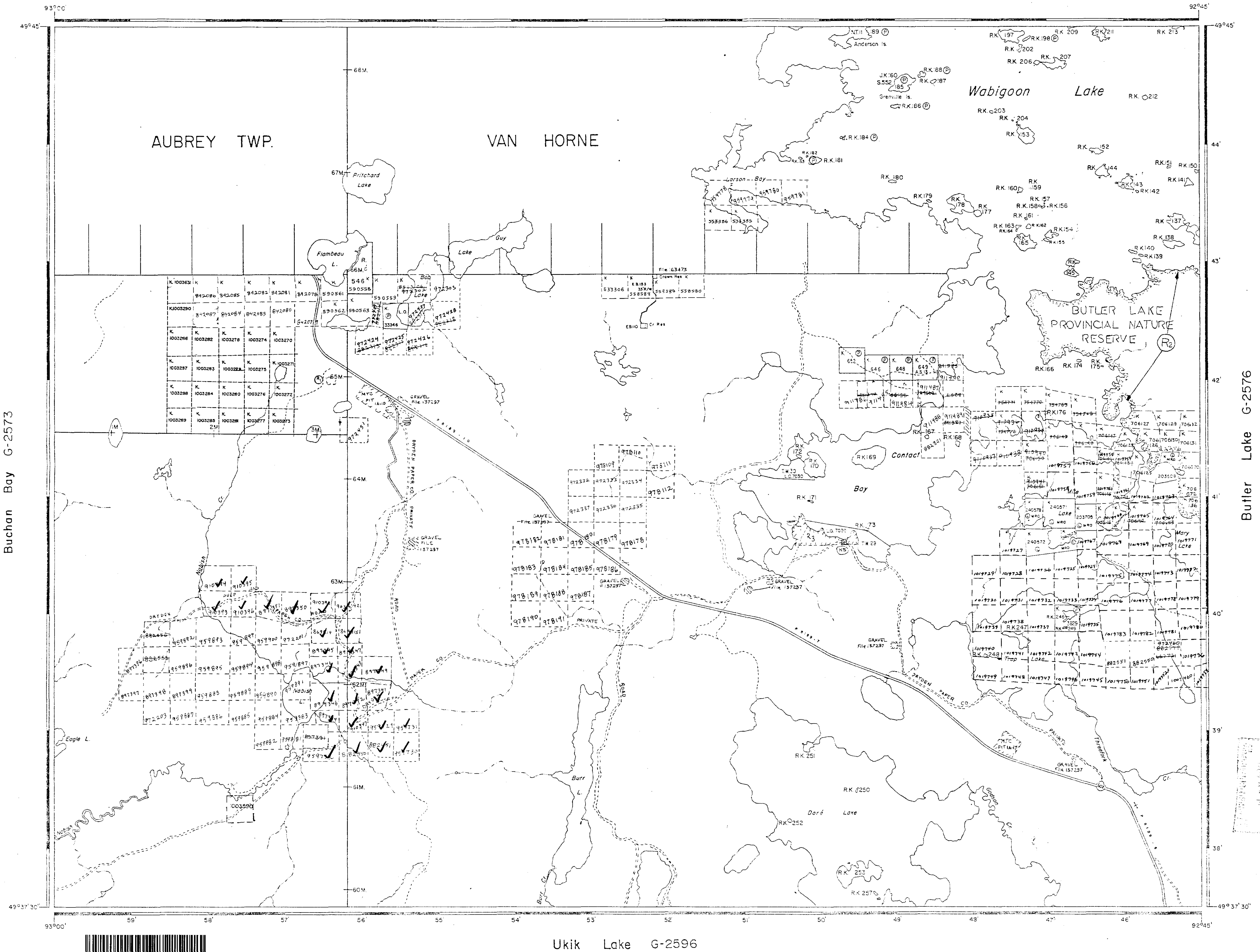
_____

_____

_____

_____

_____



LEGEND

- HIGHWAY AND ROUTE No
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES.
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	Ⓟ or ●
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	Ⓛ or ■
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	Ⓡ
CANCELLED	⊗
SAND & GRAVEL	Ⓢ

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1.

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File
R1	W.75/77	28/9/77	S.R.O.	161004
R2	W.34/83	8/23/83	M+S	188513
R3	Proposed Surface Rights Park Reserve	Reservation Jan.19/83		Pub. Lands Act
R4	~~Proposed Short Term LUO~~	~~Fall 83~~	Cancelled	

All Islands in Wabigoon Lake withdrawn from staking under Sec. 39 Sub. C. of Mining Act.

Roads indicated Dryden Paper Co. Private Road may be used by Prospectors only after permission is obtained from Dryden Paper Co. Dryden, Ont.

R5 Proposed Short Term LUO Spring 86.

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

AREA
CONTACT BAY
WABIGOON LAKE

M.N.R. ADMINISTRATIVE DISTRICT
DRYDEN
MINING DIVISION
KENORA
LAND TITLES / REGISTRY DIVISION
KENORA

Ontario Ministry of Natural Resources — Land Management Branch

Date JANUARY, 1984

Number **G-2579**

496924

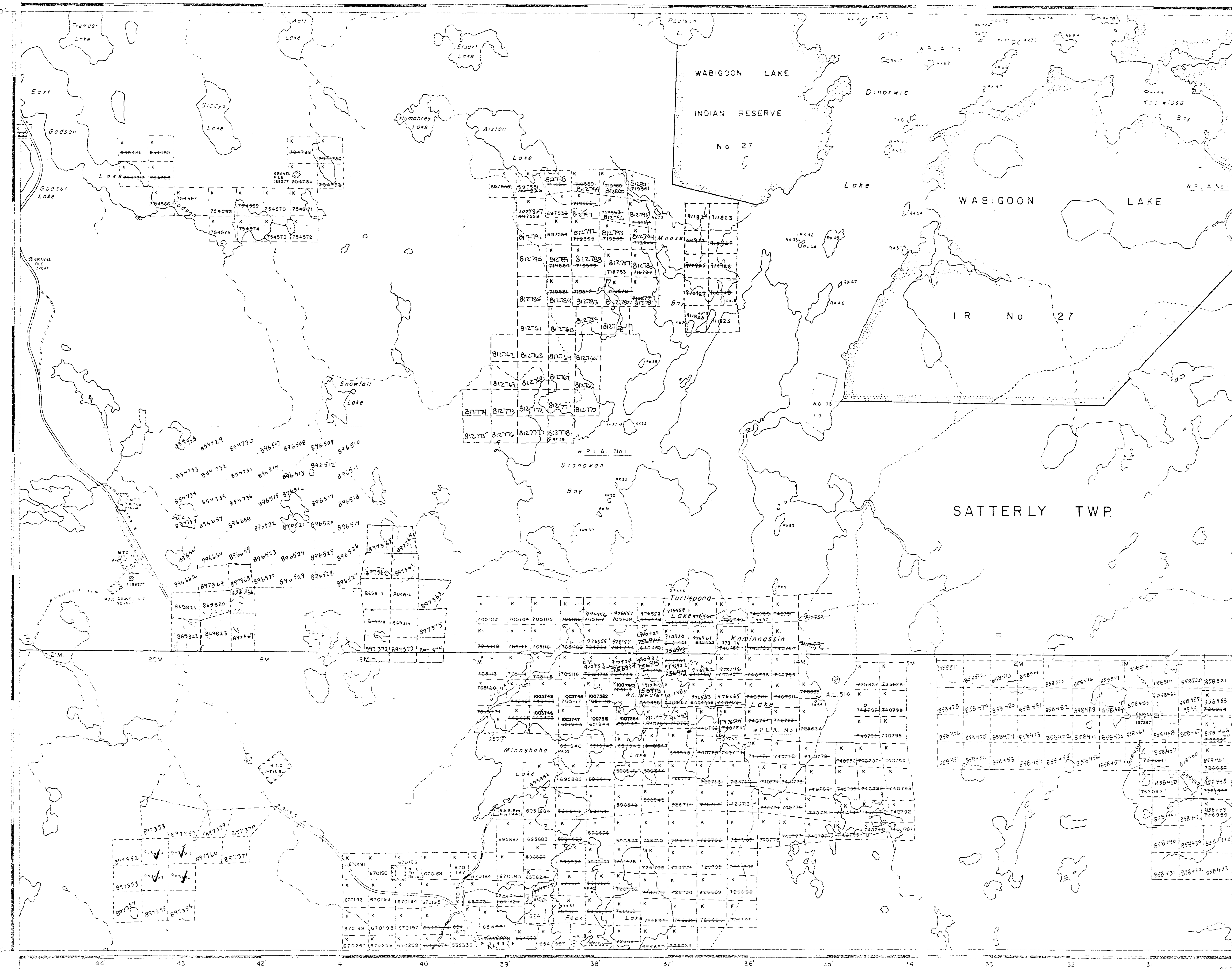
52F10NW0068 2.10528 CONTACT BAY (WABIGOO

200

BUTLER LAKE - G-2576

UKIK LAKE - G-2596

TABOR LAKE - G-2592



BOYER LAKE - G-2572

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C.
PATENTED S.R.O.	

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY

S.R.O. - SURFACE RIGHTS ONLY

M.+ S. - MINING AND SURFACE RIGHTS

Description	Order No	Date	Disposition	File
				SPRING 86
2A WITHDRAWN	SEMR	Nov. 18/85	200PM W19/85	

ROADS INDICATED DRYDEN PAPER CO. ARE PRIVATE ROADS, BUT MAY BE USED BY PROSPECTORS ONLY AFTER PERMISSION IS OBTAINED FROM DRYDEN PAPER CO. DRYDEN ONTARIO

FLOODING

RESERVING THE RIGHT TO HOLD THE WATERS OF THE WABIGOON RIVER AND WABIGOON LAKE INCLUDING DINORWIC, TURTLEPOND, AND MINNEHAHA LAKES, AND CROOKED RIVER, TO AN ELEVATION NOT EXCEEDING 1209.90'

WATER POWER LEASE AGREEMENT No 1, 28 FEB 1950

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 2000 (1 KM) (2 KM)

AREA **TURTLEPOND LAKE**

M.N.R. ADMINISTRATIVE DISTRICT

DRYDEN

MINING DIVISION

KENORA

LAND TITLES / REGISTRY DIVISION

KENORA

Ministry of Natural Resources Ontario

Land Management Branch

Date FEBRUARY, 1984

Number G-2595

M-2663

52F10NW0068 2.10528 CONTACT BAY (WABIGOO 210

St. Joe Canada Inc.

NABISH LAKE PROPERTY

SCALE = 1:5000

LEGEND

- 3 Unsubdivided Gabbro
- 3a Hornblende Gabbro
- 3b Quartz - hornblende Gabbro
- 3c Biotite - Hornblende Gabbro
- 3d Sheared and altered Gabbro
- 3e Very coarse grained Quartz - Hornblende Gabbro
- 3f Modally layered Hornblende Gabbro
- 3g Leucogabbro
- 3h Metagabbro

- 2 Unsubdivided Intermediate Metavolcanics
- 2a Lapilli tuff
- 2b Silicified, Carbonitized Intermediate Tuff

- 1 Unsubdivided Mafic metavolcanics
- 1a Mafic Flows
- 1b Chlorite Schist
- 1c Amphibolite

- Claim Post
- Boundary Post
- Witness Post and corresponding Claim Post
- ▲ NL 1-87 Sample location and number
- trench
- Outcrop
- Swamp, Marsh, bog
- Overburden slope
- Cliff
- Road
- Overgrown road
- Contact - assumed
- Traverse Lines

- Fault, Shear zone
- S_b Black Spruce
- F_b Balsam Fir
- Ar Trembling Aspen
- W_t Tag Alder.
- Ced Cedar
- P_s Scotch Pine
- L Larch

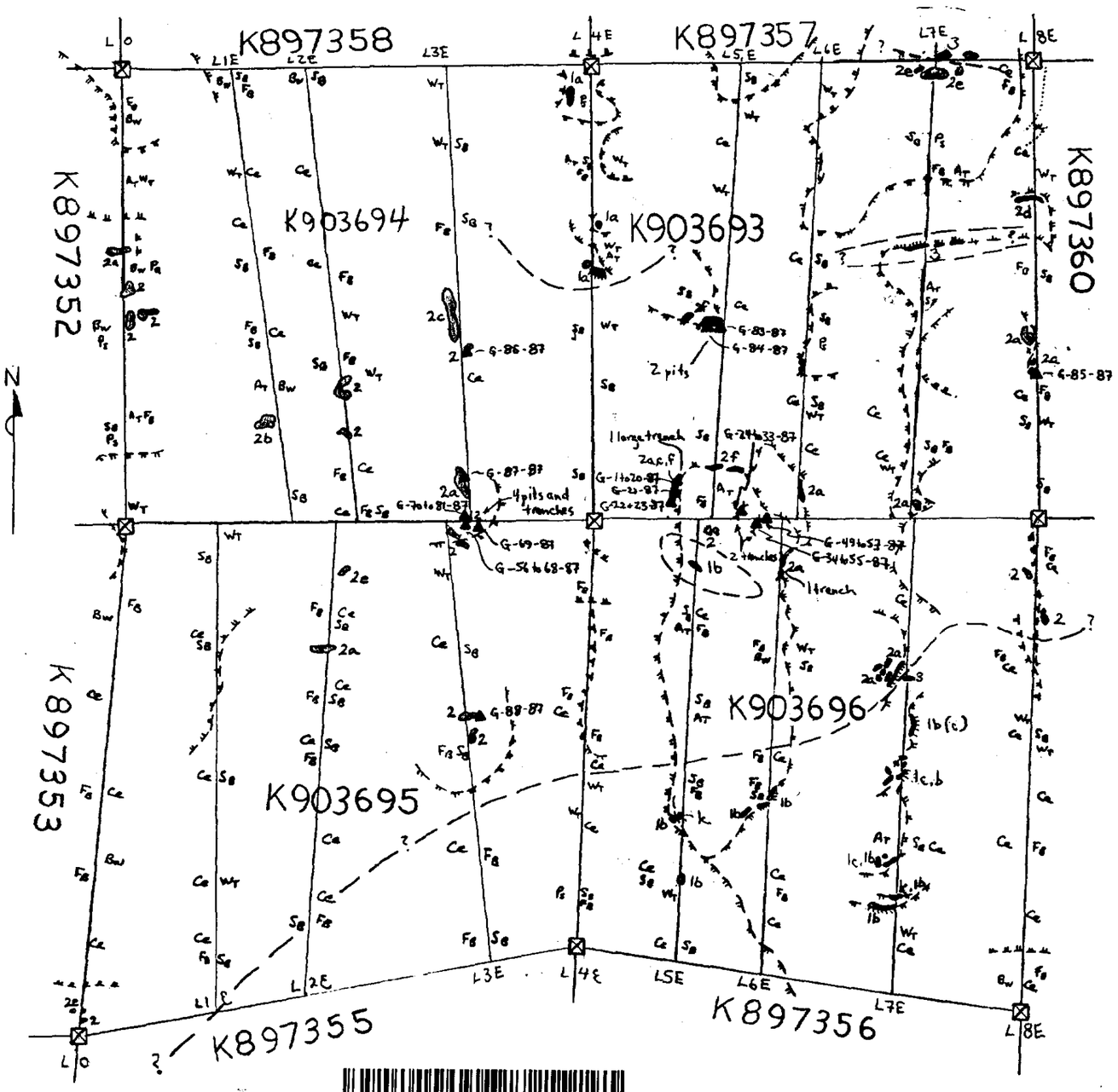
2.10528

GLATZ PROPERTY

ST. JOE CANADA INC.

CENTRAL CLAIMS

SCALE = 1:5000



LEGEND

- 3 (Quartz)-Feldspar Porphyry Dyke
- 2 Gabbro (Unsubdivided)
  - 2a Quartz Gabbro
  - 2b Hornblende Gabbro
  - 2c Quartz-Hornblende Gabbro
  - 2d Leucogabbro
  - 2e Melagabbro
  - 2f Quartz Melagabbro
- 1 Unsubdivided Intermediate Metavolcanics
  - 1a Sheared and Carbonitized Intermediate Metavolcanics
  - 1b Intermediate Tuffs
  - 1c (Quartz)-Feldspar Porphyry

⊠ Claim Post

Overburden slope - shallow, steep

Cliff

Outcrop

Trench, pit

▲ G-83-87 Sample location and number

--- Contact - assumed

S_B	Black Spruce
F_B	Balsam Fir
B_W	White Birch
A_T	Trembling Aspen
W_T	Tag Alder
P_S	Scotch Pine
P_R	Red Pine
Ce	Cedar

Nov 12/87